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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,688

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Naoki Iijima

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9126

38834

7590

09/25/2008

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EXAMINER

JACOBS, TODD D

ART UNIT

PAPER NUMBER

4159

MAIL DATE

DELIVERY MODE

09/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,688	<b>Applicant(s)</b> IIJIMA ET AL.	
	<b>Examiner</b> TODD D. JACOBS	<b>Art Unit</b> 4159	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>15 February 2005</u> .                                        | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it should avoid using phrases which can be implied, such as, "The disclosure concerns," "the disclosure defined by this invention," "the disclosure describes," "the invention relates to", etc. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

2. Claim 11 objected to because of the following informalities: Line 2 of the independent claim 11 states "said pump rotor" but should read "a pump rotor" because no pump rotor has been introduced for this limitation to refer to. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 6-8, 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakagami et al (5,961,291).

5. In re claim 1, Sakagami with reference to figure 1 below discloses a vacuum pump comprising:

- a pump rotor (103) rotatably disposed in a casing (100); and
- a pump-rotor controller (20) for controlling rotation of said pump rotor in a forward direction (S2) or a reverse direction (S2) in accordance with a predetermined pattern (S2, S3, S4, S5) at the time of starting said vacuum pump. Note that since col 9, line 38 states, while discussing figure 1 below "the pump rotor may be turned forwardly or

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reversely a predetermined number of times by a small angle", step S2 could be in forward or reverse directions. Note also that figure 1 shows the predetermined pattern (S2, S3, S4, S5) at the time of starting the vacuum pump.

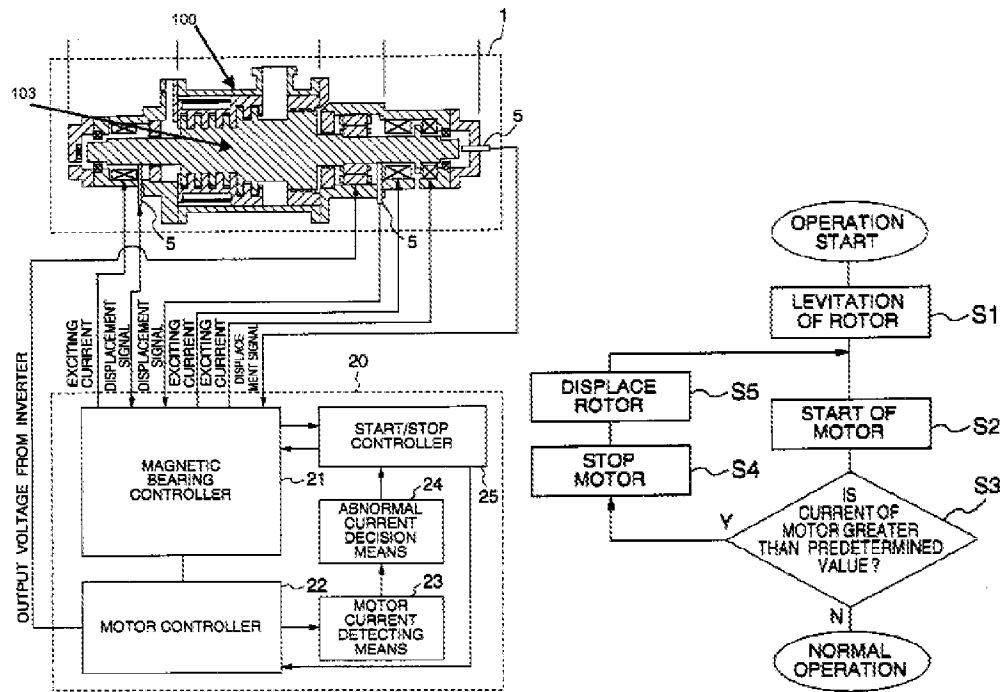


Figure 1

6. In re claim 2, with reference to figure 1 above, Sakagami discloses that the predetermined pattern (S2, S3, S4, S5) includes a combination of at least two of rotation of said pump rotor in said forward direction (S2), rotation of said pump rotor in said reverse direction (S2), and stop of said pump rotor (S4).

7. In re claim 3, with reference to figure 1 above, Sakagami discloses that the predetermined pattern (S2, S3, S4, S5) is set in said pump-rotor controller such that said pump rotor is driven in the order of the rotation in said forward direction (S2), the stop, and the rotation in said forward direction (S4).

8. In re claim 5 with reference to figure 1 above, Sakagami discloses:

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- a state-judging device (24) for judging whether said pump rotor is rotated normally or not at the time of starting said vacuum pump;
- wherein when said state-judging device (24) judges that said pump rotor is not rotated normally at the time of starting said vacuum pump, said pump rotor is rotated in accordance with said predetermined pattern (occurring at step S3).

9. In re claim 6, with references to figure 1, and figure 2 below Sakagami discloses all limitations of starting a vacuum pump having a pump rotor rotatably disposed in a casing, comprising:

- controlling rotation of said pump rotor in a forward direction or a reverse direction at the time of starting said vacuum pump in accordance with a predetermined pattern (note this has been discussed above for claim 1);
- rotating said pump rotor in said forward direction in a steady state for evacuation (note in figure 2, nominal speed is shown as steady state after the start-up cycles).

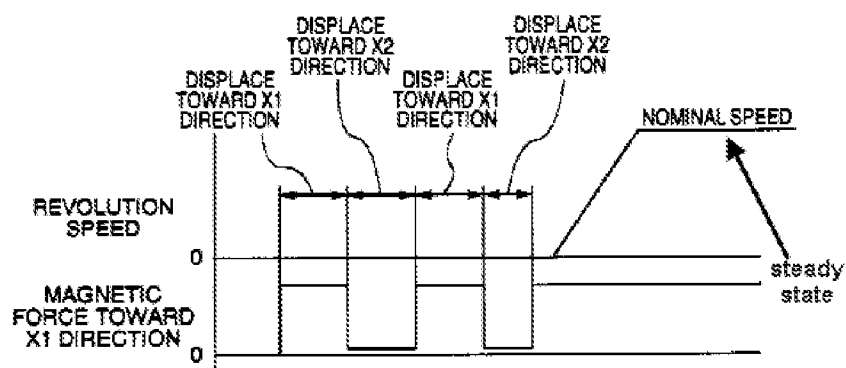


Figure 2

10. In re claim 7, with reference to figure 1 above, Sakagami discloses all limitations wherein the predetermined pattern (S2, S3, S4, S5) includes a combination of at least two of rotation of

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said pump rotor in said forward direction (S2), rotation of said pump rotor in said reverse direction (S2), and stop of said pump rotor (S4).

11. In re claim 8, with reference to figure 1 above, Sakagami discloses all limitations wherein the predetermined pattern (S2, S3, S4, S5) is set in said pump-rotor controller such that said pump rotor is driven in the order of the rotation in said forward direction (S2), the stop, and the rotation in said forward direction (S4).

12. In re claim 10 with reference to figure 1 above, Sakagami discloses all of the limitations:

- a state-judging device (24) for judging whether said pump rotor is rotated normally or not at the time of starting said vacuum pump;
- wherein when said state-judging device (24) judges that said pump rotor is not rotated normally at the time of starting said vacuum pump, said pump rotor is rotated in accordance with said predetermined pattern (occurring at step S3).

13. In re claim 11, with references to figures 1 and 2 above, Sakagami discloses all limitations of starting a vacuum pump having a pump rotor rotatably disposed in a casing, comprising:

- judging (24, figure 1) whether said pump rotor is rotated normally or not (step S3 on figure 1);
- controlling rotation of said pump rotor in a forward direction or a reverse direction at the time of starting said vacuum pump in accordance with a predetermined pattern (note this has been discussed above for claim 1);
- rotate said pump rotor in said forward direction in a steady state for evacuation (note in figure 2, nominal speed is shown as steady state after the start-up cycles).

14. Regarding to claims 6-8, 10-11, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method

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claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). MPEP 2112.02

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 4, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakagami in view of Blow (GB 2102072).

17. In re claim 4, with reference to figure 1 above, while Sakagami discloses that the rotor can be either forward or reverse in the predetermined pattern, the predetermined pattern set in said pump-rotor controller such that said pump rotor is rotated in the order of said reverse direction (S2) and said forward direction (S3) is not disclosed.

18. Nevertheless, Blow discloses a predetermined pattern set in said pump-rotor controller such that said pump rotor is rotated in the order of said reverse direction and said forward direction. Page 1, line 10 states that "it has now been discovered that such damage can generally be avoided if the compressor is run in the reverse to the normal direction of the rotation for a short period immediately before the compressor is started in its normal direction of rotation."

19. Therefore, it would be obvious for one having ordinary skill in the art at the time of the invention to use a predetermined pattern set in said pump-rotor controller such that said pump

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rotor is rotated in the order of reverse direction and forward direction in order to reduce damage as taught by Blow for use in the pump of Sakagami.

20. In re claim 9, with reference to figure 1 above, while Sakagami discloses all limitations to perform the method wherein the rotor can be either forward or reverse in the predetermined pattern, the predetermined pattern set in said pump-rotor controller such that said pump rotor is rotated in the order of said reverse direction (S2) and said forward direction (S3) is not disclosed.

21. Nevertheless, Blow discloses a predetermined pattern set in said pump-rotor controller such that said pump rotor is rotated in the order of said reverse direction and said forward direction. Page 1, line 10 states that "it has now been discovered that such damage can generally be avoided if the compressor is run in the reverse to the normal direction of the rotation for a short period immediately before the compressor is started in its normal direction of rotation."

22. Therefore, it would be obvious for one having ordinary skill in the art at the time of the invention to use a predetermined pattern set in said pump-rotor controller such that said pump rotor is rotated in the order of reverse direction and forward direction in order to reduce damage as taught by Blow for use in the pump of Sakagami.

23. Regarding to claim 9, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). MPEP 2112.02



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to TODD D. JACOBS whose telephone number is (571)270-5708. The examiner can normally be reached on Monday - Friday, 7:30-5:00; Alt. Fridays only.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TODD D. JACOBS/  
Examiner, Art Unit 4159

/Quang T Van/  
Primary Examiner, Art Unit 3742  
September 23, 2008